

Message Text

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ACTION STR-08

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CEA-02 CIAE-00 COME-00 DODE-00 EB-11 FRB-03 H-03

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INFO USMISSION GENEVA

AMCONSUL TORONTO

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E.O. 11652: N/A

TAGS: ETRD, GATT, EIND, CA

SUBJECT: MTN: PRREPARATION OF PROTOTYPE SECTOR STUDY - ELECTRICAL
POWER GENERATING MACHINERY

REF; A. STATE 131800

B. OTTAWA 2341

1. INFORMATION IN FOLLOWING PARAGRAPHS ON CANADIAN
ELECTRICAL POWER GENERATING MANCHINERY INDUSTRY WAS
COMPILED BY CONGEN TORONTO IN RESPONSE TO EMBASSY
REQUEST. WASHINGTON END-USERS SHOULD TREAT ALL DATA
PROVIDED AS APPROXIMATE, BUT PROBABLY BEST AVAILABLE
CONSIDERING THAT NO REPEAT NO OFFICIAL DATA IS
AVAILABLE. CONGEN TORONTO CAUTIONS THAT MAJOR
SOURCE OF INFORMATION WAS SENIOR OFFICIAL OS
CANADIAN GENERAL ELECTRIC COMPANY (CGE) AND SHOULD BE
PROTECTED ACCORDINGLY. WHILE INFORMATION OBTAINED
DOES NOT LEND ITSELF TO PRECISE CLASSIFICATION
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REQUESTED UNDER PARA A (STRUCTURE OF INDUSTRY) OF

REFTEL A AND IS NOT RESPONSIVE TO A NUMBER OF INDUSTRY STRUCTURE COMPONENTS, IT REPRESENTS MAXIMUM INPUT AVAILABLE TO US AND WILL PREHAPS PROVE USEFUL IN AN INDICATIVE WAY. LATEST AVAILABLE STATISTICS CANADA PUBLICATIONS ON ELECTRIC POWER STATISTICS (1972), MANUFACTURERS OF ELECTRICAL INDUSTRIAL EQUIPMENT (1971), AND PRODUCTS SHIPPED BY CANADIAN MANUFACTURERS (1970) ARE BEING POUCHED TO STR (MCNAMARA). WASHINGTON EXPERTS ON SUBJECT INDUSTRY MAY FIND THESE PUBLICATIONS MORE USEFUL THAN WE HAVE FOR PURPOSES OF RESPONDING TO THIS SECTOR STUDY REQUEST.

2. ACCORDING TO CGE, 1970 TOTAL CANADIAN ELECTRICAL GENERATING CAPACITY WAS 42.2 MILLION KILOWATTS (MKW); AN ESTIMATED 2 PERCENT OF THIS CAPACITY WAS OWNED BY PRIVATE COMPANIES FOR INDUSTRIAL USE (PRIMARILY PULP AND PAPER) AND THE REMAINDER (98 PERCENT) BY THE UTILITIES. CGE PROJECTS THAT THIS CAPACITY WILL ALMOST DOUBLE BY 1980 TO 81 MKW. IN 1970, 28 MKW OF THE 42.2 MKW CAPACITY WAS HYDRO POWER: IN CGE'S ESTIMATE HYDRO WILL INCREASE TO 46 MKW BY 1980, OR ROUGHLY 56 PERCENT OF THE TOTAL. NUCLEAR POWER, ON THE OTHER HAND, IS EXPECTED TO INCREASE FROM 2.25 MKW IN 1970 TO ABOUT 6.5 MKW IN 1980, OR 8 PERCENT OF THE TOTAL. IN THE LONGER TERM, NUCLEAR POWER, BU CGE ESTIMATES, WILL INCREASE ITS PERCENTAGE TO 36 PERCENT OF THE TOTAL BY YEAR 2000. GAS TURBINE GENERATED ELECTRICITY IS USED ALMOST EXCLUSIVELY FOR PEAK LOAD CAPABILITY DUE TO RELATIVELY INEXPENSIVE COST OF INSTALLATION BUT HIGH COST OF OPERATION.

3. WHILE DIFFICULT TO TRANSLATE PARA 2 CAPACITY EXPANSION ESTIMATES INTO DOLLAR COST, CGE SUGGESTED COSTS PER KILOWATT OF APPROXIMATELY 85 DOLLARS TO INSTALL A GAS TURNINE, 700 DOLLARS TO 800 DOLLARS FOR A NUCLEAR FACILITY AND 300 DOLLARS TO 400 DOLLARS FOR HYDRAULIC AND FOSSIL FUEL CAPABILITITES. THESE COST ESTIMATES, HOWEVER, CANNOT BE TRANSLATED DIRECTLY INTO COSTS FOR GENERATING MACHINERY PER SE, INCLUDING AS THEY DO, FOR EXAMPLE, COSTS OF DAM CONSTRUCTION FOR HYDRO PLANTS AND LIMITED OFFICIAL USE

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REACTORS FOR NUCLEAR FACILITIES.

4. CGE ESTIMATES THAT TOTAL DOLLAR VOLUME OF SALES OF ENGINES AND TURBINES FOR TOTAL CANADIAN MARKET WOULD AVERAGE REPEAT AGERAGE 250 MILLION DOLLARS YEARLY FOR REMAINDER OF DECADE. THIS AVERAGE PROJECTION, HOWEVER, SUBJECT TO SHARP YEARLY FLUCTUATIONS; FOR EXAMPLE, CGE CLAIMS THAT TOTAL 1974 CONFIRMED SALES

ORDERS WILL REACH 500 MILLION DOLLARS WHILE ESTIMATE FOR 1975 IS ONLY 100 MILLION DOLLARS. CGE TOTAL CANADIAN MARKET ESTIMATE FOR TRANSFORMERS IS \$50 MILLION YEARLY. NO REPEAT NO ESTIMATE HAZARDED FOR SWITCHGEAR SALES.

5. CGE OFFICIAL CONFIRMED THAT ONLY THREE COMPANIES IN CANADA WERE BUILDING LARGE GENERATORS AND TURBINES: CGE, DOMINION ENGINEERING WORKS LTD. (WHOLLY-OWNED CGE SUBSIDIARY), AND HOWDEN PARSONS. (WESTINGHOUSE MANUFACTURERS 25 TO 80 MEGAWATT GENERATORS FOR PEAKING AND STAND-BY USE.) FIVE COMPANIES ARE ESTIMATED TO BE BUILDING TRANSFORMERS AND FIVE COMPANIES ARE IN THE SWITCHGEAR MANUFACTURING BUSINESS FOR THE POWER GENERATING AND DISTRIBUTION INDUSTRY. CGE ROUGH ESTIMATE FOR TOTAL EMPLOYMENT IN ELECTRICAL POWER GENERATING INDUSTRY IS 100,000.

6. BOTH CGE AND THE CANADIAN ELECTRICAL MANUFACTURERS ASSOCIATION (CEMA) STATE THAT CANADIAN MANUFACTURERS HAVE CAPABILITY TO SUPPLY TOTAL NEEDS OF CANADIAN MARKET. CEMA NOTES, HOWEVER, THAT ABOUT 30 PERCENT OF SALES TO THE LOCAL MARKET ARE FOREIGN; THIS FIGURE IS VERY DIFFICULT TO PIN DOWN BECAUSE OF HIGH FOREIGN CONTENT IN FINAL CANADIAN MANUFACTURES. CGE SOURCE CONFIRMED THAT MANY OF CGE'S PRODUCTS HAD HIGH U.S. CONTENT, BUT VARIES GREATLY FROM PRODUCT TO PRODUCT. IN ADDITION, ACCORDING TO CGE, CANADIAN MANUFACTURERS OF SUBJECT INDUSTRY EQUIPMENT ARE MOSTLY FOREIGN (READ U.S.) SUBSIDIARIES AND DEPEND UPON FOREIGN (READ U.S.) SOURCES FOR THEIR TECHNOLOGY. ON EXPORT SIDE, CGE SAID THAT ITS EXPORTS RUN AS HIGH AS 20 PERCENT OF PRODUCTION IN SOME YEARS.

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UM CANADIAN MANUFACTURERS SHIPMENTS IN 1970
(EXTRACTED FROM STATISTICS CANADA PUBLICATION BEING
POUCHED) OF SELECTED EQUIPMENT MAY BE OF USE:

(A)	TURBINES, HYDRAULIC AND STEAM:	\$64,874,781
(B)	TRANSFORMERS:	\$130,155,710
(C)	TRANSFORMER PARTS:	\$3,847,495
(D)	GENERATORS AND PARTS:	\$27,745,311
(E)	CONVERTER EQUIPMENT:	\$6,962,483
(F)	SWITCHGEAR AND PROTECTIVE EQUIPMENT:	\$125,538,175
(G)	MOTORS, ELECTRIC, AC AND DC	
	(EXCEPT STARTING:	74,459,656

8. WHILE PERHAPS OF LIMITED USEFULNESS, FOLLOWING LIST OF PERTINENT PRODUCTS AND NUMBER OF MANUFACTURERS WAS COMPILED FROM "MODERN POWER & ENGINEERING" (MACLEAN-HUNTER PUBLICATION) AND SCOTT'S REGISTER. THIS LIST IS CONFINED TO PRODUCTS MANUFACTURED IN ONTARIO, CANADA'S MOST INDUSTRIALIZED PROVINCE:

PRODUCT	NO. OF MANUFACTURING FIRMS
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CIRCUIT BREAKERS - AIR	HVXP
CIRCUIT BREAKERS- CURRENT	5
CIRCUIT BREAKERS"MOULDED	3
CIRCUIT BREAKERS-OIL	4
CIRCUIT BREAKERS-SF6	4
GENERATORS	10
RECTIFIERS	8
SWITCHBOARDS	10
SWITCHGEAR- TO 4160V	13
SWITCHGEAR OVER 4160V	13
TRANSFORMERS- CONTROL	11
TRANSFORMERS- DISTRIBUTION	14
TRANSFORMERS- DRY TYPE	12
TRANSFORMERS-OIL FILLED ASKAREL	6
INDICATORS	1
STANDBY GENERATORS	2
TURBINES GAS	4
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TURBINES HYDRAULIC	0
TURBINES STEAM	2.
PORTER	

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Message Attributes

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